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Please cancel Claims 37 and 90. The Claim Listing below will replace all prior versions of the claims in the application:

Claim Listing:

Claims 1-11 (Canceled)

Claim 12 (Previously presented) Purified human cartilage oligomeric matrix protein which digests into bands of 50 kDa and 55 kDa when cleaved by trypsin.

Claim 13 (Previously presented) Purified human cartilage oligomeric matrix protein which digests into bands of 62 kDa and 67 kDa when cleaved by trypsin.

Claims 14-16 (Canceled)

Claim 17 (Previously presented) An ELISA kit comprising human cartilage oligomeric matrix protein prepared by the method comprising:

- a) introducing DNA encoding human cartilage oligomeric matrix protein into cells, thereby producing cells expressing human cartilage oligomeric matrix protein;
- b) culturing the cells in a culture medium under conditions suitable for expressing the human cartilage oligomeric matrix protein, thereby producing expressed human cartilage oligomeric matrix protein; and
- c) purifying the human cartilage oligomeric matrix protein in the presence of calcium.

Claim 18 (Canceled)

Claim 19 (Previously presented) An ELISA kit comprising the human cartilage oligomeric matrix protein (hCOMP) produced by the method comprising:

- a) obtaining DNA encoding full length hCOMP;
- b) introducing the DNA into cells, thereby producing cells expressing hCOMP;
- c) culturing the cells in a culture medium under conditions suitable for expressing the hCOMP, thereby producing expressed hCOMP; and
- d) purifying the hCOMP in the presence of calcium.

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Claims 20-37 (Canceled)

Claim 38 (Previously presented) A composition comprising purified cartilage oligomeric matrix protein and a biological matrix, wherein the matrix comprises at least one material selected from the group consisting of: treated cartilage and bone matrices, collagens, hyaluronan, fibrin gels, carbon fibers, porous polylactic acid, type I collagen gel, and type II collagen gel, and further comprising chondrocytes or mesenchymal stem cells.

Claim 39 (Previously presented) A composition comprising purified cartilage oligomeric matrix protein and a biological matrix, wherein the matrix comprises at least one material selected from the group consisting of: treated cartilage and bone matrices, collagens, hyaluronan, fibrin gels, carbon fibers, porous polylactic acid, type I collagen gel, and type II collagen gel, wherein the cartilage oligomeric matrix protein is bound to a differentiation agent.

Claim 40 (Previously presented) A composition comprising purified cartilage oligomeric matrix protein and a biological matrix, wherein the matrix comprises at least one material selected from the group consisting of: treated cartilage and bone matrices, collagens, hyaluronan, fibrin gels, carbon fibers, porous polylactic acid, type I collagen gel, and type II collagen gel and further comprising chondroitin sulfate proteoglycans.

Claim 41 (Previously presented) A composition comprising purified cartilage oligomeric matrix protein and a biological matrix, wherein the matrix comprises at least one material selected from the group consisting of: treated cartilage and bone matrices, collagens, hyaluronan, fibrin gels, carbon fibers, porous polylactic acid, type I collagen gel, and type II collagen gel, wherein the cartilage oligomeric matrix protein is human cartilage oligomeric matrix protein purified in a calcium-replete environment.

Claim 42 (Previously presented) A composition comprising purified cartilage oligomeric matrix protein and a biological matrix, wherein the biological matrix comprises type I collagen gel or type II collagen gel, and wherein the matrix further comprises at least one material selected from the group consisting of: treated cartilage and bone matrices, collagens, hyaluronan, fibrin gels, carbon fibers and porous polylactic acid.

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Claims 43-90 (Canceled)

Claim 91 (Previously presented) A composition comprising purified cartilage oligomeric matrix protein and a biological matrix, wherein the matrix comprises at least one material selected from the group consisting of: treated cartilage and bone matrices, hyaluronan, fibrin gels, carbon fibers, porous polylactic acid and type I collagen gel.